

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Yasuyoshi Ueda et al.

Serial No.: 10/501,698

Art Unit: 1657

Filed: February 3, 2005

Examiner: Satyendra K. Singh

Title: METHOD FOR STABILIZING REDUCED COENZYME Q<sub>10</sub> AND  
COMPOSITION THEREFOR

DECLARATION UNDER RULE 132

Honorable Commissioner of Patents and Trademarks,  
Alexandria, Virginia 22313-1450

Sir:

I, Takahiro Ueda, a citizen of Japan and having  
postal mailing address of 6-31-17-2018, Shioya-cho,  
Tarumi-ku, Kobe-shi, Hyogo 655-0872 JAPAN, declare and say  
that:

March, 2000, I was graduated from Kobe University  
Graduate School of Science and Technology, and received a  
Master Degree in chemistry;

Since April, 2000, I have been employed by Kaneka  
Corporation, and engaged in the works of Research and  
development for fine chemicals in New Products Development  
Team, New Business Development Group, QOL Division;

I am one of the inventors of the above-identified  
application and am familiar with the subject matter  
thereof;

I have read the Official Action mailed and the  
references cited therein and I am familiar with the  
subject matter thereof;

I respectfully submit herewith my exact report  
thereon;

# Experiment

The following additional Experiment was conducted.

## <Experiment 1>

A mixture of MCT, Tween80 and diglycerol monooleate (Riken Vitamin Co., Ltd.'s Poem DO-100V) was prepared to have the weight ratio shown in Table 1, and the mixture having total weight 5 g was poured into a 50 mL bottle. To the bottle, 0.3 g of the crystals (reduced coenzyme Q<sub>10</sub>) obtained in Production Example 2 in the present specification and 7 mg of ascorbyl palmitate were added. The resulting mixtures were stored in the air at 40°C for 60 hours, and the reduced coenzyme Q<sub>10</sub>/oxidized coenzyme Q<sub>10</sub> weight ratios in the solutions were determined. The results are shown in Table 1.

Table 1

Weight ratio *1	Content of Tween80 *2	R
85/10/5	10	94.2/5.8
75/20/5	20	94.6/5.4
65/30/5	30	93.7/6.3
55/40/5	40	87.8/12.2
45/50/5	50	83.9/16.1

\*1: weight ratio of MCT/Tween80/diglycerol monooleate

\*2: content of Tween80 based on the system excluding coenzyme Q<sub>10</sub> (% by weight)

R: reduced coenzyme Q<sub>10</sub>/oxidized coenzyme Q<sub>10</sub> weight ratio

From the results shown in Table 1, it is clear that the stabilization of reduced coenzyme Q<sub>10</sub> is not inhibited when the content of Tween80 is not higher than 30% by weight based on the system excluding coenzyme Q<sub>10</sub>.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Signed this 13<sup>th</sup> day of October, 2009

A handwritten signature in cursive script, reading "Takahiro Ueda", is written over a horizontal line.

Takahiro Ueda